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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DOAN, KIET M

ART UNIT

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2617

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,958	Applicant(s) RUNE ET AL.	
	Examiner KIET DOAN	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 42-84 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 42-57, 59-78 and 80-84 is/are rejected.
- 7) ☒ Claim(s) 58 and 79 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/11/2009 has been entered.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 81 and 82 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. It is noted that computer programs or computer program products do not define any structural and functional interrelationships between computer program and other claimed elements of computer which permit the computer program's functionality to be realized. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claim 81 and 82 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent¹ and recent Federal

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

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Circuit decisions² indicate that a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim recites a series of steps or acts to be performed, the claim neither transforms underlying subject matter nor is positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process.

Response to Arguments

3. Applicant's arguments with respect to claims 42 and 60 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 42-43, 46, 52-54, 56-61, 64, 70-73, 75-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (US 2003/0161284 A1) in view of Kiishi et al. (US 2002/0126664 A1) and further view of Cheng et al. (US 2005/0043045 A1).

Consider **claims 42, 60, (81, 82** A computer program...). Chen teaches a router in an Internet Protocol, IP, based UMTS Terrestrial Radio Access Network, UTRAN,

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

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Transport Network within a Universal Mobile Telecommunication System (Paragraphs [0016], [0031] teach UMTS system wherein contain radio network controller, IP, node b), the UTRAN transport network carrying Dedicated Channel (DCH) frames on DCHs between a RNC and at least one Node B, the router comprising (Paragraphs [0067-0072], Fig1, Illustrate and teach the connection through UTRAN which involve **routing** through one or more RNC, nobe-B, see paragraph [0007-0008]).

- *The examiners also notice Chen teaches soft handover and use Macro-Diversity Combining which technique of routing/splitting.*

Chen teaches claimed limitation as discussed above **but is silent on** means for splitting one input downlink DCH traffic flow originating from the RNC into at least two output downlink DCH traffic flows by using an IP multicast protocol, wherein each output downlink DCH flow carries user data destined to a same end user equipment, and

wherein the router is separate from both the RNC and the Node Bs.

In an analogous art, **Kiiski teaches** means for splitting one input downlink DCH traffic flow originating from the RNC into at least two output downlink DCH traffic flows by using an IP multicast protocol,

wherein each output downlink DCH flow carries user data destined to a same end user equipment, (Paragraphs [0025], [0042] , [0055-0056], Fig.1 show RNC that having Macro Diversity Combining (MDC) wherein splitting the down link DCH traffic to Node b (BS1-BS3), further node b output down link to mobile station (MS)). It would have been obvious at the time that the invention was made to modify Chen with

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Kiishi's system such that routing the IP from RNC to Node B and to Mobile station that carrying Dedicate Channel in order to increase the efficiency of traffic transmission in internet protocol with low cost. However, the combination of Chen and Kiishi are **silent on**

wherein the router is separate from both the RNC and the Node Bs.

In an analogous art, **Cheng teaches** wherein the router is separate from both the RNC and the Node Bs (Paragraph [0021-0022] teach the router that between Node B and RNC).

Therefore, it would have been obvious at the time that the invention was made to modify Chen and Kiishi with Chen's system such that wherein the router is separate from both the RNC and the Node Bs in order to provide multiple routing to different node that helping the user communicate to the strongest node.

Consider **claims 43 and 61**. The combination of Chen and Kiishi and Cheng teach the router according to claim 42, further Kiishi teaches wherein the router comprises means for replicating each DCH frame of the input downlink DCH traffic into a corresponding DCH frame of each output downlink DCH traffic flow and means for transmitting the replicated DCH frames of all output downlink DCH traffic flows according to the IP multicast protocol (Paragraphs [0025], [0042] , [0055-0056], Fig.1 show RNC that having Macro Diversity Combining (MDC) wherein splitting the down link DCH traffic to Node b (BS1-BS3), further node b output down link to mobile station (MS)).

Consider **claims 46 and 64**. The combination of Chen and Kiishi and Cheng teach the router according to claim 42, further Chen teaches wherein each DCH traffic flow is assigned a dedicated multicast destination address in the at least one Node B (Paragraphs [0067]).

Consider **claims 52 and 70**. The combination of Chen and Kiishi and Cheng teach the router according to claim 42, further Chen teaches comprising: means for identifying DCH frames belonging to different uplink DCH traffic flows by means of utilization of a multicast address, assigned as the downlink destination address, as a source address of the DCH frames sent in the uplink DCH traffic flows from all participating Node Bs (Paragraphs [0060-0063]).

Consider **claims 53 and 72**. The combination of Chen and Kiishi and Cheng teach the router according to claim 42, further Chen teaches comprising: means for identifying DCH frames belonging to different uplink DCH traffic flows by retrieving a destination address and the destination port(s) of the uplink flows from the RNC (Paragraphs [0054], [0060-0063]).

Consider **claims 54 and 73**. The combination of Chen and Kiishi and Cheng teach the router according to claim 42, further Chen teaches comprising :means for identifying DCH frames belonging to different uplink DCH traffic flows by using an uplink

flow identity implicit in a downlink DCH traffic flow (Paragraphs [0060-0063]).

Consider claims **56 and 77**. The combination of Chen and Kiishi and Cheng teach the router according to claim 42. Further, Kiishi teaches wherein the router comprises means for combining at least two uplink DCH traffic flows into one single uplink DCH traffic flow (Fig.1 show DMC that combining at least two uplink DCH traffic flows).

Consider **claims 57 and 78**. The combination of Chen and Kiishi and Cheng teach the router according to claim 56. Further, Chen teaches wherein the means for combining comprises further means for building a new DCH frame from a received set of DCH frames in the at least two uplink DCH traffic flows to be combined, encapsulating the new DCH frame in a UDP packet and sending the UDP IO packet in the uplink direction (Paragraphs [0054], [0060-0063]).

Consider **claims 59 and 80**. The combination of Chen and Kiishi and Cheng teach the router according to claim 42, further Chen teaches comprising: means for estimating a Latest Accepted Time of Arrival (LAToA) for a next set of DCH frames to be combined having a Connection Frame Number n (CFN n) based on times of arrival of the previous set of frames having a CFN $n-1$, and means for adjusting the estimates of the LAToA for each new frame adapted to a maximum transport delay that a frame can experience under normal circumstances on its path from the at least one Node B to

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the router (Paragraphs [0063], [0074-0080]).

Consider **claims 71 and 75**. The combination of Chen and Kiishi and Cheng teach the method according to claim 70, further Chen teaches comprising: identifying an originating Node B of an uplink DCH frame, based on a destination IP address and a destination UDP port assigned by the RNC to the Node B for the uplink of the DCH (Paragraph [0048-0049]).

Consider **claims 83 and 84**. The combination of Chen and Kiishi and Cheng teach the router according to claim 42, further Cheng teach wherein the router is in a communication traffic path between the RNC and the at least one Node (Paragraphs [0021-0022])

6. Claims 44-45, 47-51, 55, 62-63, 65-69, 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (US 2003/0161284 A1) in view of Kiishi et al. (US 2002/0126664 A1) in view of Cheng et al. (US 2005/0043045 A1) and further view of Haggerty (US 6,331,983).

Consider claims **44, 62**. The combination of Chen and Kiishi and Cheng teach the router according to claim 42, **but is silent on** wherein the IP multicast protocol is a Core Based Trees Multicast Routing version 2, CBTv2 protocol.

In an analogous art, **Haggerty teaches** wherein the IP multicast protocol is Core Based Trees Multicast Routing version 2, CBTv2 (Col. 6, lines 53-54)

It would have been obvious to one skilled in the art at the time of the invention was made to modify Chen and Kiishi and Cheng with Haggerty's system, such that he IP multicast protocol is Core Based Trees Multicast Routing version 2, CBTv2 to provide means for transmit traffic to all member of its destination with the same quality and reliable.

Consider **claims 45 and 63**. The combination of Chen and Kiishi and Cheng with Haggerty teach the router according to claim 42. Further, Haggerty teaches wherein the IP multicast protocol is Protocol Independent Multicast-Sparse Mode (PIM-SM) protocol (Col. 6, lines 53-55).

Consider **claims 47 and 65**. The combination of Chen and Kiishi and Cheng with Haggerty teach the router according to claim 46. Further, Haggerty teaches wherein the means for splitting further comprises means for identifying a mapping between the RNC and the multicast destination address by using CBTv2 or PIM-SM bootstrap mechanism (Col. 7, lines 45-59, Col. 18, lines 30-35).

Consider **claims 48 and 66**. The combination of Chen and Kiishi and Cheng with Haggerty teach the router according to claim 42. Further, Haggerty teaches further comprising means for determining whether the router is a splitting and/or combination router by using the protocol(s) CBTv2 and/or MLD, wherein the protocol(s) are/is arranged to determine the number of listeners for a specific multicast destination

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address (Col.11, lines 45-55, Col.13, lines 56-56).

Consider **claims 49 and 67**. The combination of Chen and Kiishi and Cheng and Haggerty teach the router according to claim 42. Further, Haggerty teaches further comprising: means for determining whether the router is a splitting and/or combination router by using protocol(s) PIM-SM and/or MLD wherein the protocol(s) are/is arranged to determine a number of listeners for a specific multicast destination address (Col.11, lines 45-55, Col.18, lines 30-36).

Consider **claims 50, 51, 68 and 69**. The combination of Chen and Kiishi and Cheng and Haggerty teach the router according to claim 42. Further, Haggerty teaches further comprising: means for determining whether the router is a splitting and/or combination router by using the protocol(s) PIM-SM and/or Internet Group Management Protocol, IGMP, wherein the protocol(s) are/is arranged to determine a number of listeners for a specific multicast destination address (Col.11, lines 45-55, Col.4, lines 56-63).

Consider **claims 55 and 74**. The combination of Chen and Kiishi and Cheng and Haggerty teach the router according to claim 42. Further, Haggerty teaches wherein the router comprises means for identifying DCH frames belonging to different uplink DCH traffic flows by modifying MLD or IGMP protocol and a multicast routing protocol such

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that a destination port of an uplink is included in messages that are used to build a multicast tree (Col.5, lines 10-34).

Allowable Subject Matter

7. Claims 58 and 79 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KIET DOAN whose telephone number is (571)272-7863. The examiner can normally be reached on 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on 571-272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kiet Doan/
Examiner, Art Unit 2617

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617